



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,839	04/20/2006	Roger Alberto	1621 WO/US	2298
Jerad Seurer Mallinckrodt Inc. 675 McDonnell Boulevard P.O. Box 5840 St. Louis, MO 63134			EXAMINER JONES, DAMERON LEVEST	
			ART UNIT 1618	PAPER NUMBER
			MAIL DATE 06/05/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/576,839

Applicant(s)

ALBERTO ET AL.

Examiner

D L. Jones

Art Unit

1618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34 and 37-53 is/are pending in the application.
- 4a) Of the above claim(s) 37-44 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 51-53 is/are allowed.
- 6) ☒ Claim(s) 34, 45, 46, 49 and 50 is/are rejected.
- 7) ☒ Claim(s) 47 and 48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ ~~Notice of Informal Patent Application~~
- 6) ☐ Other: _____

ACKNOWLEDGMENTS

1. The Examiner acknowledges receipt of the amendment filed 3/18/09 wherein the specification was amended and claims 1-33, 35, and 36 were canceled and claims 34, 37, 39-41, 46, 48, 51, and 53 were amended

Note: Claims 34 and 37-53 are pending.

RESPONSE TO APPLICANT'S AMENDMENT/ARGUMENTS

2. The Applicant's arguments and/or amendment filed 3/18/09 to the rejection of claims 34-51 made by the Examiner under 35 USC 102 and/or 112 have been fully considered and deemed persuasive-in-part for reasons of record in the office action mailed 12/23/08 and those set forth below.

112 Second Paragraph Rejections

I. The rejection of claims 34-45 and 47-50 as it relates to the phrase 'the other one is optionally a monodentate ligand' is WITHDRAWN because Applicant has canceled and/or amended the claims to overcome the rejection.

II. The rejections of claims 37, 40, 48, and 53 for the reasons listed on page 3 of the office action mailed 12/23/08 are WITHDRAWN because Applicant has canceled and/or amended the claims to overcome the rejections.

III. The rejection of claim 45 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention is MAINTAINED. Specifically, a rejection was made on the basis that the definition of the phrase 'slight excess' is a relative phrase and will vary from person to person absent a definition set forth in the specification.

In summary, Applicant asserted that claim 45 is directed to a laboratory testing procedure in which an amount of the compound is incubated with a slight molar excess of guanine or guanosine and the amount of guanine or guanosine bound to the metal center is determined. Applicant concludes that the 'slight excess' recited in claim 45 is a molar excess used in testing procedures and is not dependent on the characteristics of patients to whom the compound is administered.

Applicant's argument is non-persuasive. The fact that the claim is directed to a laboratory test does not negate the 'slight excess' is a relative phrase for which the operator conducting that test arbitrarily sets the definition as to what is considered a slight excess or not. The term 'slight' according to any standard dictionary (i.e., Merriam-Webster Online Dictionary, 2009) defines the term as 'small of its kind or in amount'. Therefore, based on the general definition, the phrase would be interpreted different from person to person based on what they consider a slight excess absent guidelines that set forth specifically what Applicant defines as a 'slight excess'. Thus, the rejection is deemed proper.

IV. The rejection of claim 50 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention is **MAINTAINED**. Specifically, a rejection was made on the basis that the term 'prodrug' is vague and indefinite.

In summary, Applicant asserted that that it is clear that the metal tricarbonyl compound of claim 34 may itself be the prodrug as cites the specification as being evidence that the compound may be a prodrug.

Applicant's argument is non-persuasive. It is noted that since a definition of how Applicant is defining 'prodrug', the standard dictionary definition will be applied. Thus, according to any standard chemical dictionary (i.e., Hawley's 12th edition Condensed Chemical Dictionary, page 964, by Richard J. Lewis, Sr.), a 'prodrug' is defined as 'a term applied in pharmaceutical chemistry to a chemical compound that is converted into an active curative agent by metabolic processes within the body'. Hence, based on the general definition for the term, a skilled artisan would not know the specific compounds Applicant is claiming that are prodrugs compatible with the instant invention absent some undue experimentation to determine which species give the desired results. Thus, the rejection is deemed proper because the term 'prodrug' is vague and indefinite.

102 Rejection

I. The 102b rejection over Ardizzio et al is WITHDRAWN because Applicant has amended the claim to overcome the rejection.

II. The 102b rejection over Smith et al is WITHDRAWN because Applicant has amended the claim to overcome the rejection.

NEW GROUNDS OF REJECTION

112 Second Paragraph Rejections

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 46 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 46: The claim as written is ambiguous because of compounds 7, 14, and 18-21. Specifically, the claim is ambiguous because the variables X1, X2, and X3 cannot be a halogen; however, in each of the structures, at least one of the variables represents a halogen atom.

102 Rejection

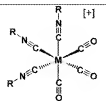
5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 34, 49, and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Dyszlewski et al (Molecular Imaging, January 2002, Vol. 1, pages 24-35).

Dyszlewski et al disclose the characterization of a ^{99m}Tc-carbonyl complex as a functional probe of MDR1 P-glycoprotein transporter (see entire document, especially, abstract). In the background, Dyszlewski et al disclose that MDR1 Pgp has been a target for cancer therapy and concludes that non-invasive imaging with a radiolabeled transport substrate serving as a surrogate marker of chemotherapeutic agents may identify those tumors and tissues in which Pgp is expressed and active (page 24, second column, first complete paragraph). Figure 1, page 25, discloses compounds (M = Tc for one species and Re for the other species) having the formula:



Tc1, Re1
M = Tc, Re
R = CH₂O(CH₂)₂OCH₃

. The species among others were analyzed for any advantages as a report of Pgp transport activity in the hopes of providing data for imaging of the MDR phenotype and for information about radiopharmaceuticals in cancer (pages 25-26, bridging paragraph). Thus, both Applicant and Dyszlewski et al disclose metal tricarbonyl compounds useful in the treatment of cancer.

Notes: (a) The species of Dyszlewski et al encompass the instant invention when Z1, X2, and X3 are isocyanides and M is Tc or Re. (b) It should be noted that the full scope of independent claim 34 has not been searched since prior art was found which could be used to reject Applicant's method claims.

CLAIM OBJECTIONS

7. Claims 47 and 48 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

ALLOWABLE CLAIM

8. It should be noted that the full scope of claim 51 has been searched. Thus, claims 51-53 are distinguished over the prior art of record because the prior art neither anticipates nor renders obvious the specific compounds listed in independent claim 51.

WITHDRAWN CLAIMS

9. Claims 37-44 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention/species.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to D L. Jones whose telephone number is (571)272-0617. The examiner can normally be reached on Mon.-Fri., 6:45 a.m. - 3:15 p.m.. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Michael Hartley can be reached on (571) 272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D L. Jones/
Primary Examiner
Art Unit 1618

June 4, 2009